FIG. 2
PRIOR ART

FIG. 1
PRIOR ART

THD=7.53%

Counter electromotive force (Voltage)

Electrical angle (degree)
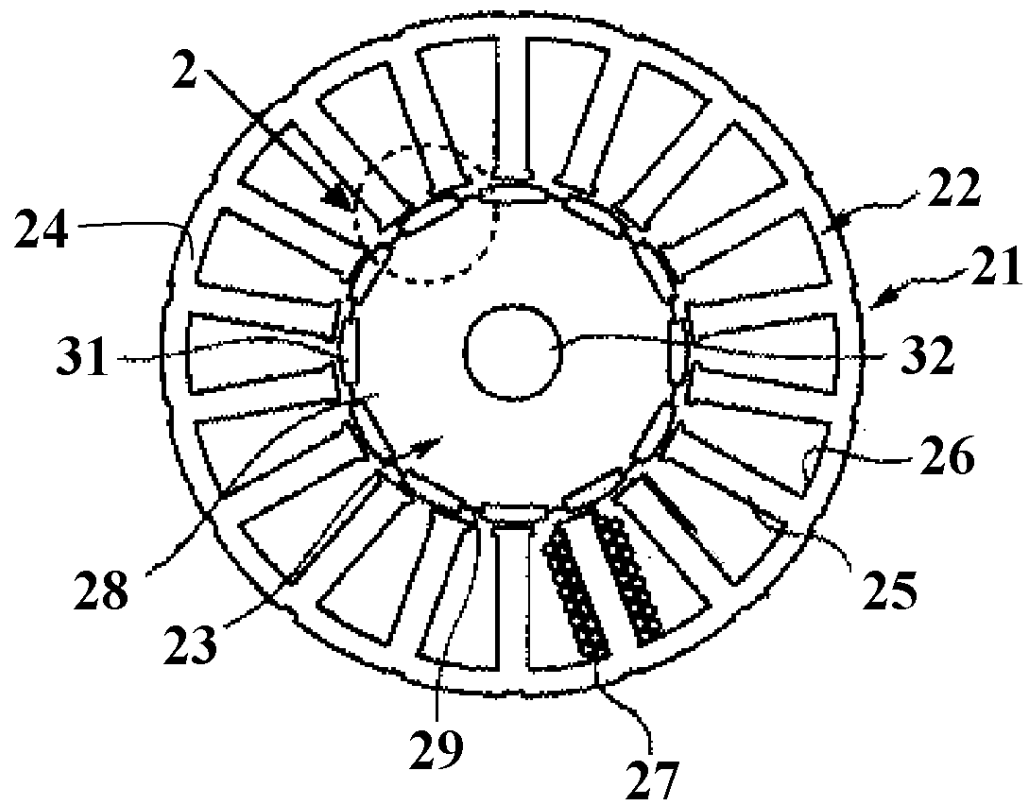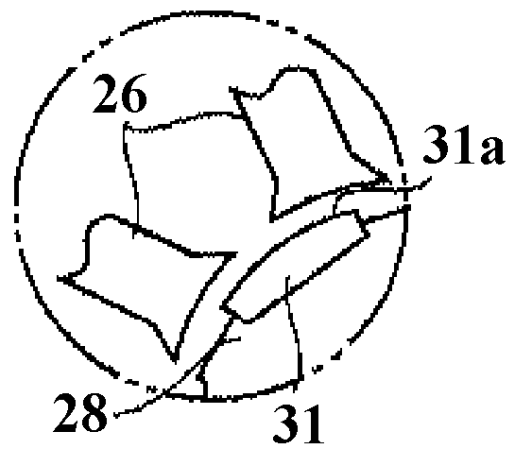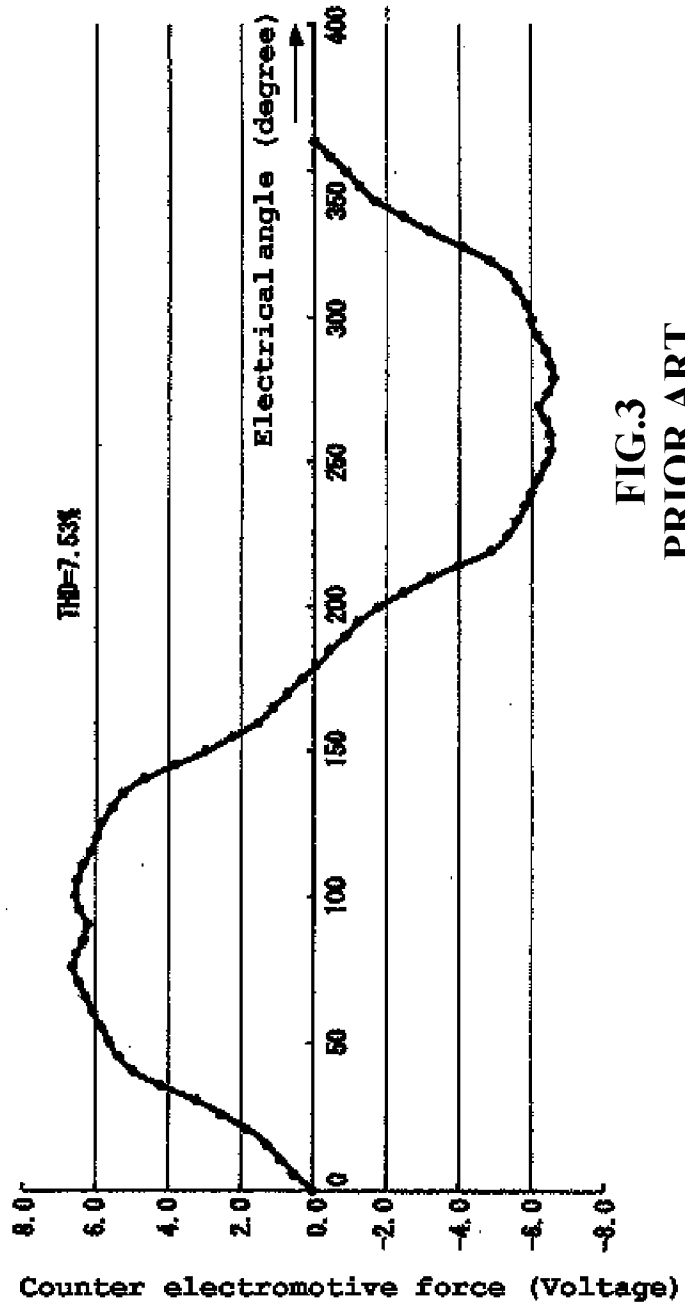
FIG.3
PRIOR ART

Electromotive force waveform
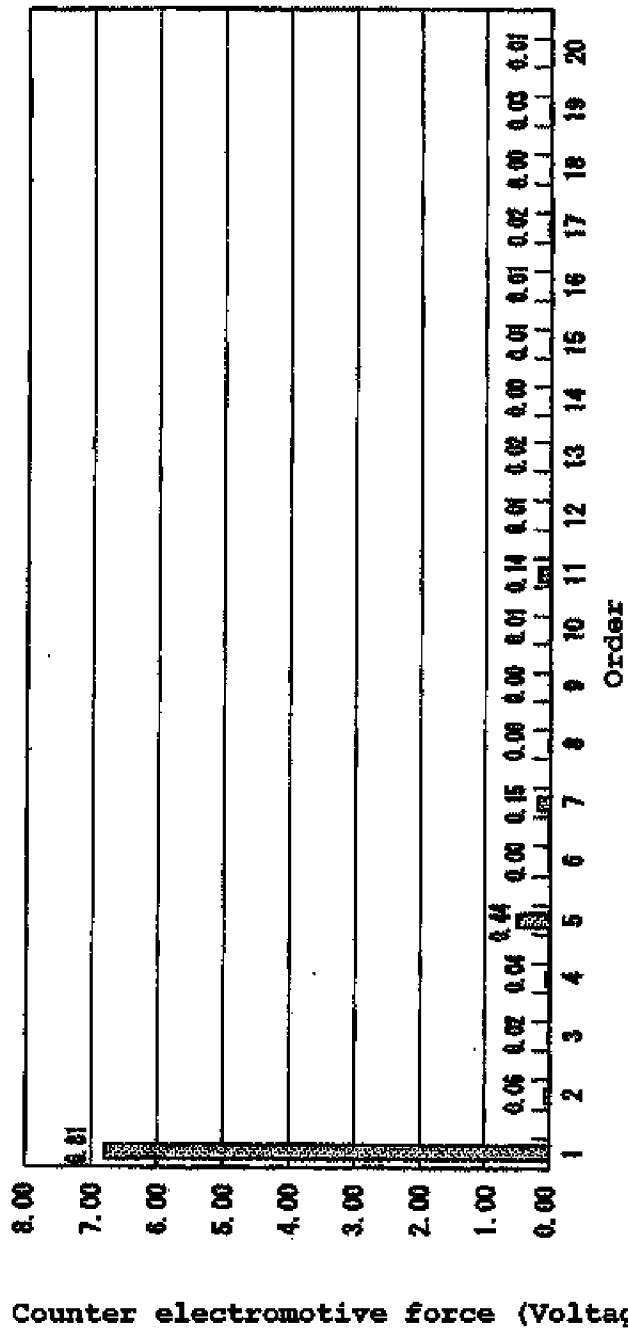Field analysis data
Analysis result of harmonics

FIG. 4
PRIOR ART

Electromotive force waveform
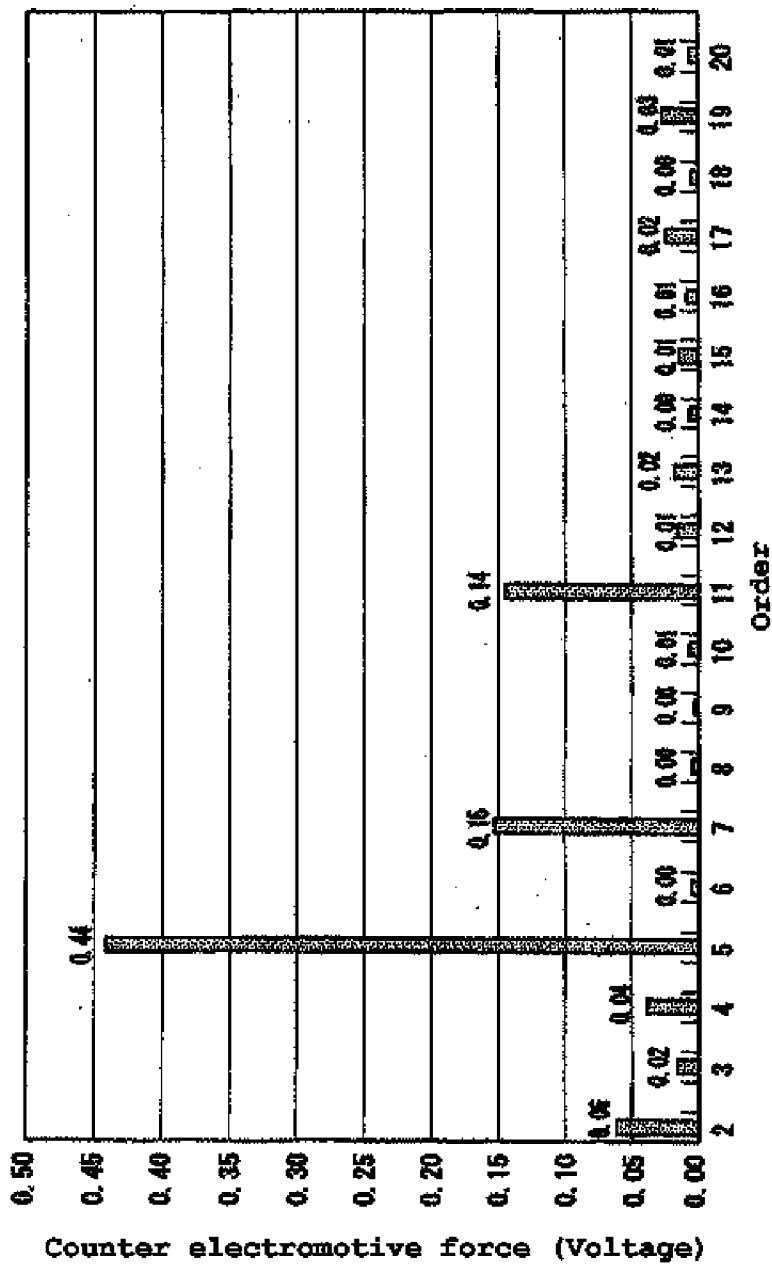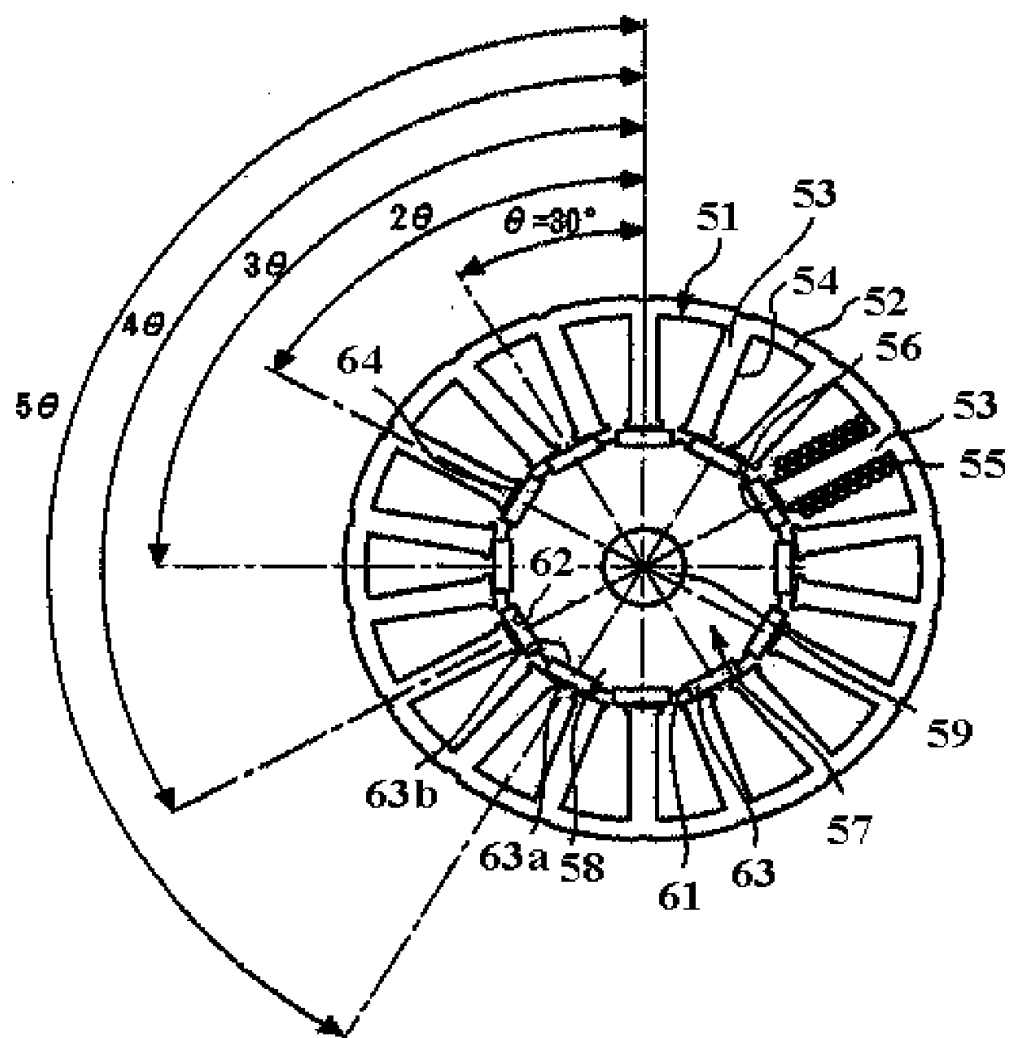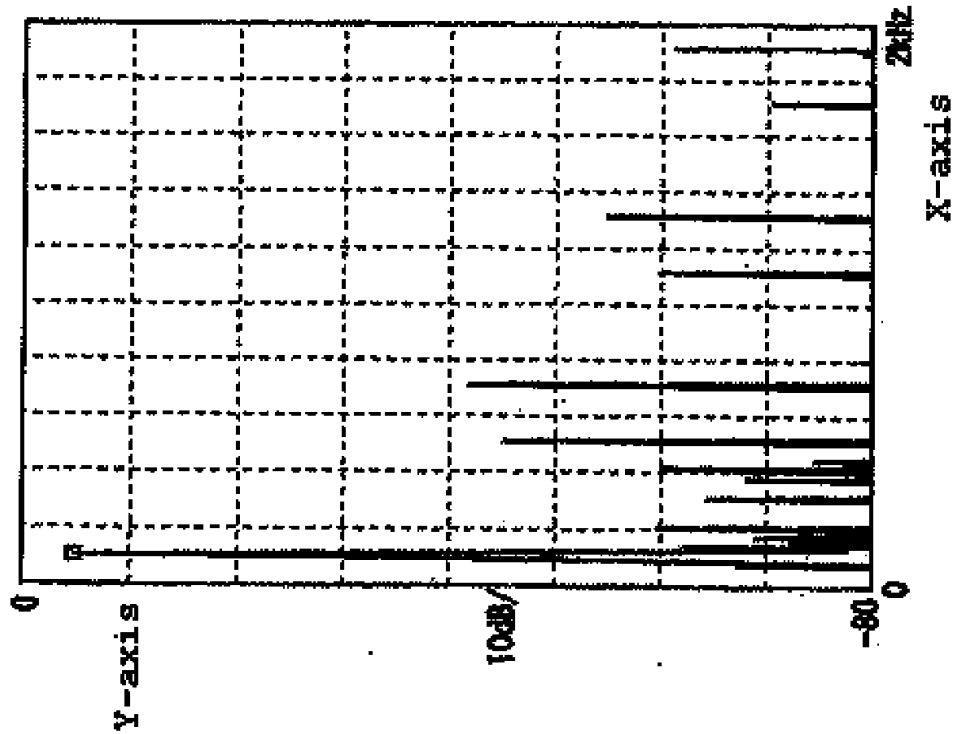Field analysis data (enlarged)

FIG. 5
PRIOR ART

FIG. 6

FIG. 7

Total Harmonic dist -99.934 dBVr T.H.D=1.732%

Order	X (Hz)	Y (dBVr)	Dist (%)	Order	X (Hz)	Y (dBVr)	Dist (%)
1	100	-4.7		11	1107.5	-59.77	0.177
2	202.5	-59.85	0.175	12	1207.6	-103.76	0.001
3	302.5	-64.44	0.103	13	1307.5	-54.87	0.31
4	402.5	-59.92	0.173	14	1410	-98.64	0.002
5	502.5	-45.63	0.92	15	1510	-85.81	0.009
6	605	-90.82	0.006	16	1610	-93.14	0.004
7	705	-41.85	1.389	17	1710	-70.57	0.051
8	805	-78.95	0.019	18	1810	-102.59	0.001
9	905	-98.92	0.006	19	1912.5	-61.21	0.16
10	1007.5	-103.06	0.001	20		0	0

FIG. 8

θ e=150°
θ d=123.33°
θ c=96.67°
θ b=66.67°
θ a=33.33°

51
53
54
52
56
53
55
64
63b
63a
63
57
61

FIG. 9

Electrical angle

Electromotive force (V)

FIG. 10

FIG. 11

FIG. 12
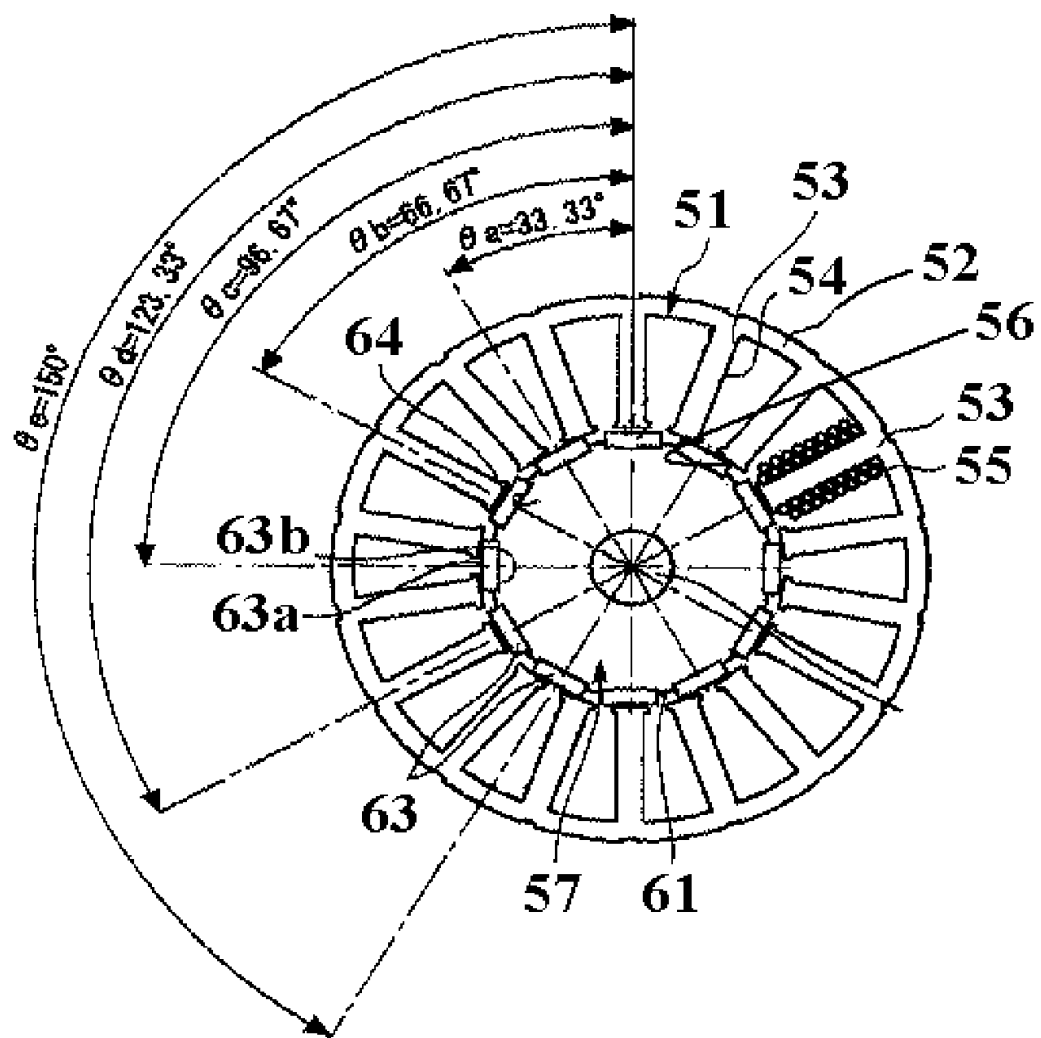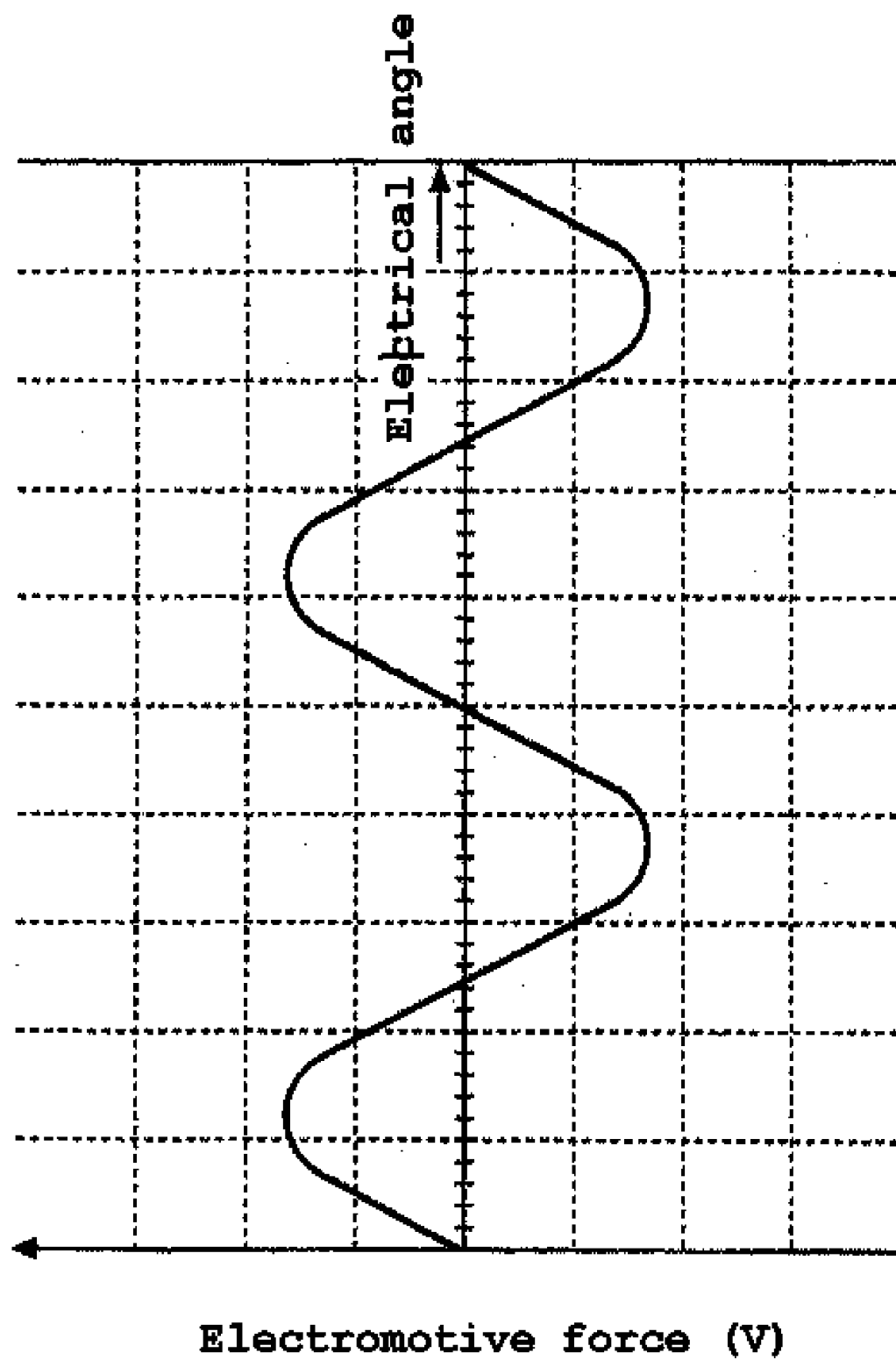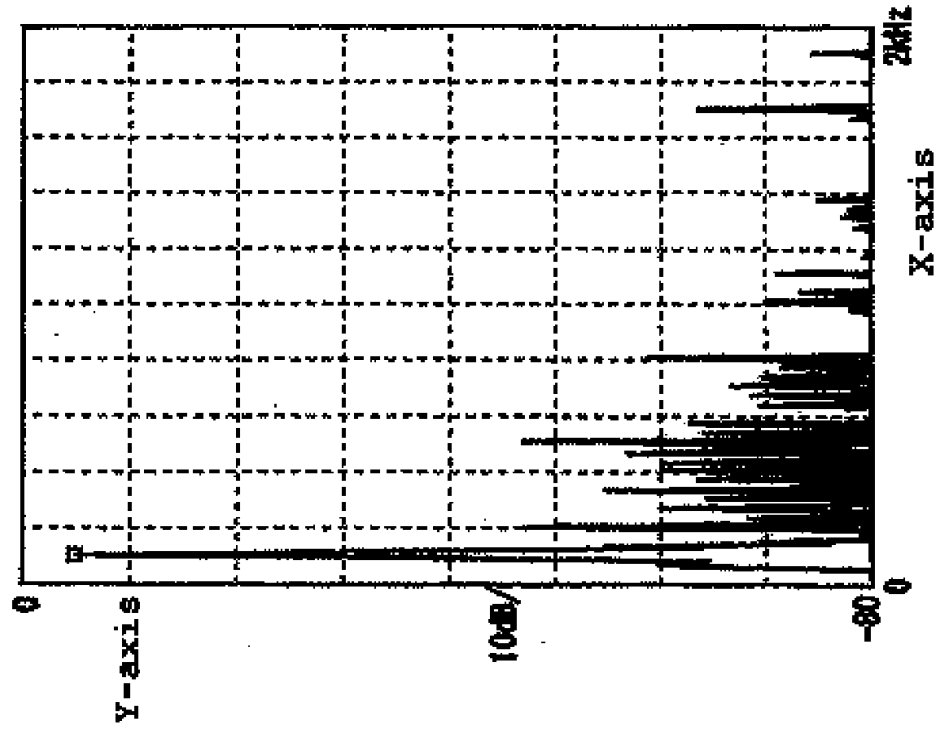
Total Harmonic dist -43.959 dBVr T.H.D=1.101%

Order	X (Hz)	Y (dBVr)	Dist (%)	Order	X (Hz)	Y (dBVr)	Dist (%)
1	100	-4.79		11	1106	-71.22	0.048
2	200	-47.37	0.743	12	1196	-99.94	0.002
3	300	-66.6	0.061	13	1310	-77.53	0.023
4	405	-60.49	0.164	14	1445	-69.11	0.007
5	505	-47.26	0.752	15	1575	-96.64	0.002
6	605	-65.87	0.009	16	1710	-64.14	0.108
7	705	-67.46	0.074	17	1846	-91.51	0.005
8	805	-59.18	0.191	18	1980	-86.49	0.008
9	905	-94.36	0.003	19	.....	0	0
10	1005	-70.52	0.082	20	.....	0	0

14

74

78

71

51

81

75

55

77

57

N   S   57

57

59   73

79   63

57

83   72

82

14

FIG. 13

DIRECTION OF ROTATION

FIG. 14